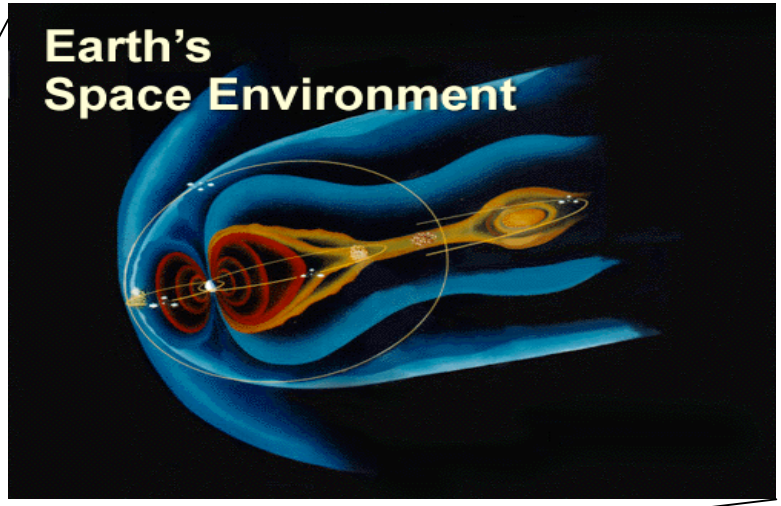
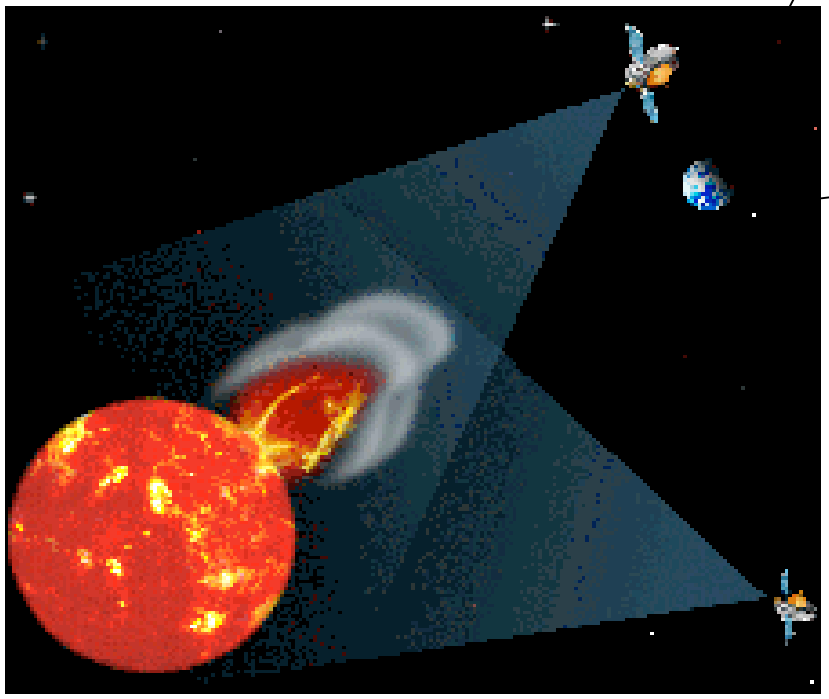
Living With a Star Information System

- **Connected Sun-Earth science goals**
- **Understand the dynamics of solar variability and Geo-reaction**





- **Near Real-time summary data to users**
- **Ultimate Goal:**
  Continuous Sun - Geospace weather map

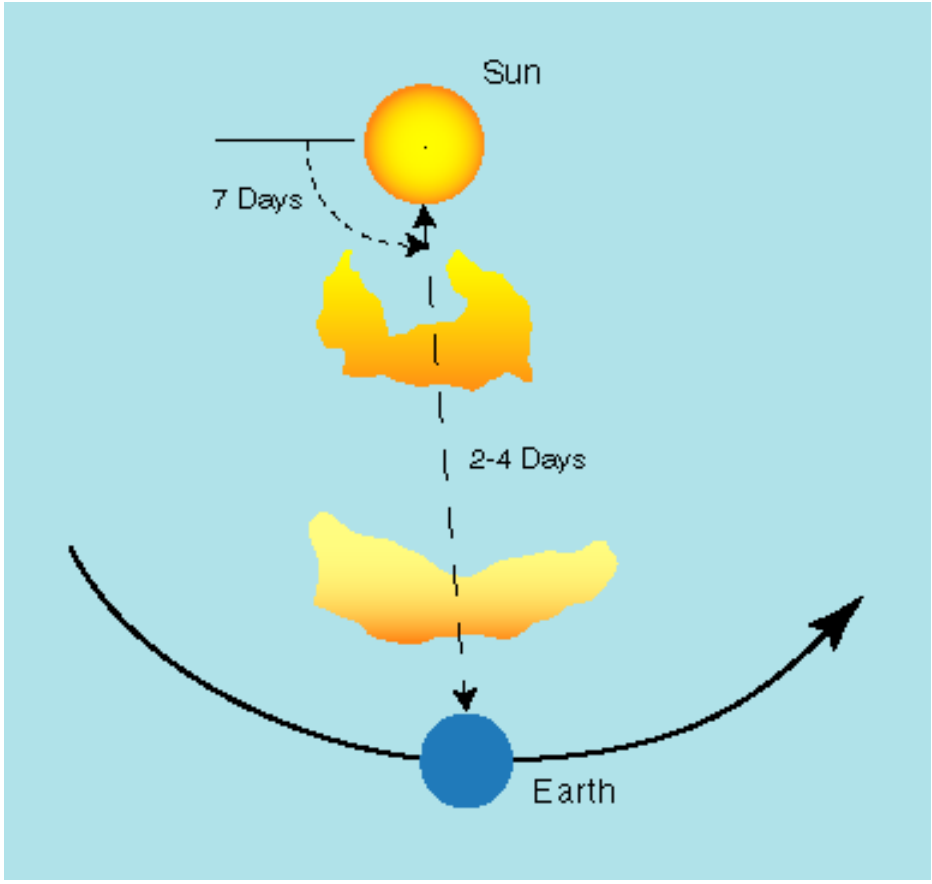
SENTINELS

Living With a Star

How can we increase forecast lead time for Geospace?

- Disturbances take only 2-4 days to reach Earth
- In 7 days solar active regions rotate from limb to central meridian

In order to increase the lead time for forecasts we must observe the solar Far Side.



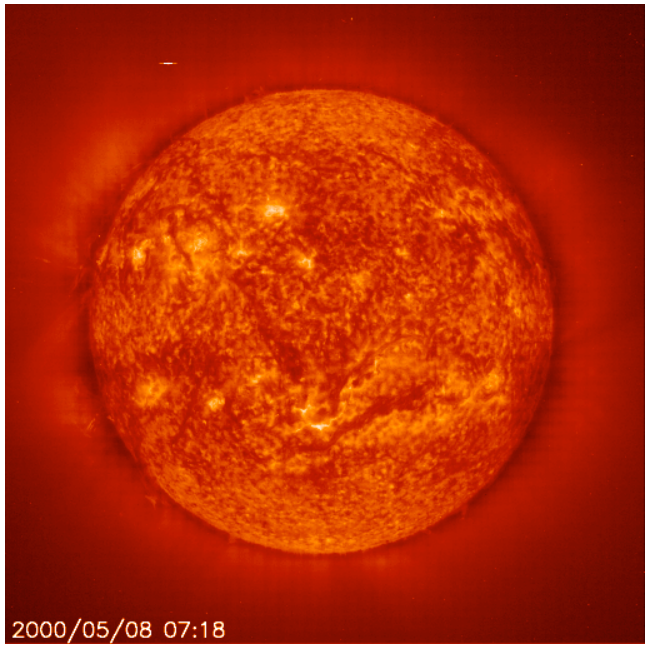
Living With a Star Information System

- Open data policy
- System includes manipulation tools and calibration information
- Distributed system, centralized summary information
- Remote data access transparent to PIs
- Internet accessibility; data and real-time, near real-time products to:
  - Science investigations
  - Users
  - Public
- Targeted products for NASA Select, Weather Channel, public TV, museums, potential EPO receivers, etc.

Living With a Star Information System

- Challenge: Combine solar and geospace data, both practically and philosophically; capture dynamics
- Geo-images, heliospheric visualization; data driven
  - Interplanetary models, CME imaging
  - MHD simulations
  - Integration of constellation mission data
  - Magnetospheric imaging
  - Auroral images
  - Space Weather event maps; instant replays

Reference: July 1998 Report of the SEC Study Team of the Space Science Data Systems Technical Working Group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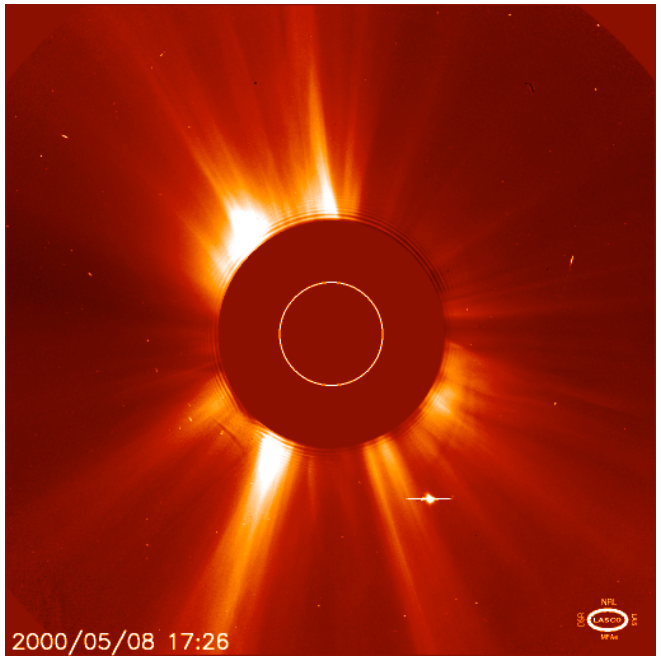
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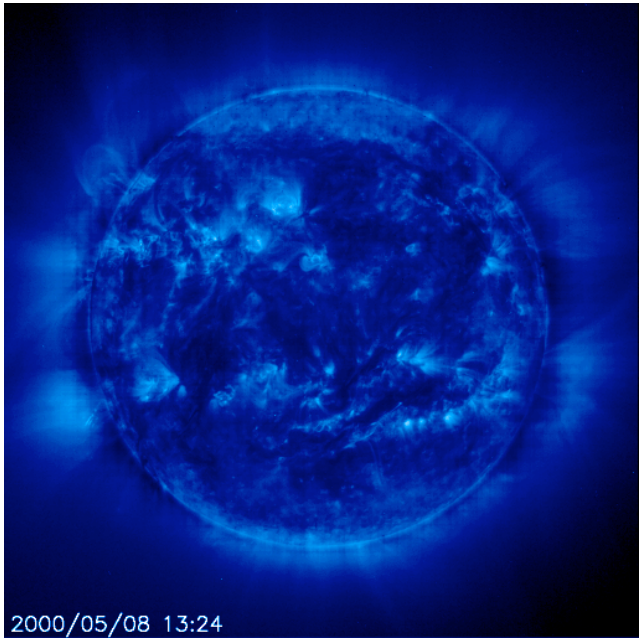
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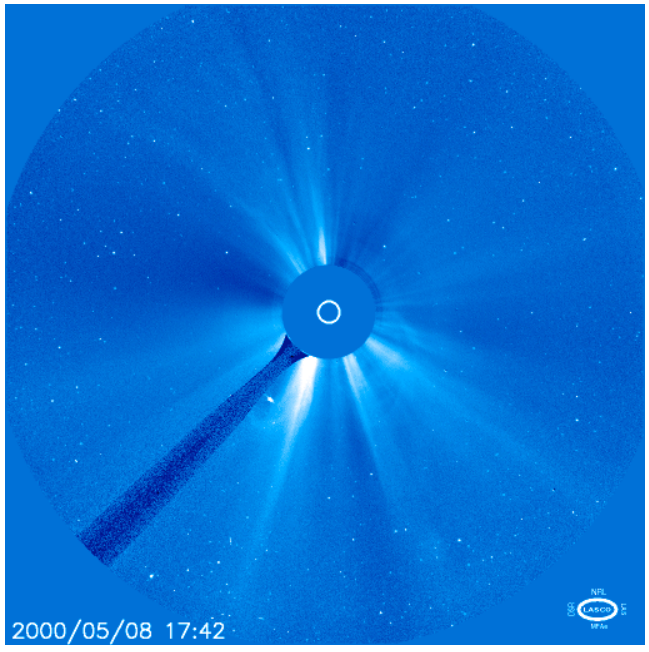
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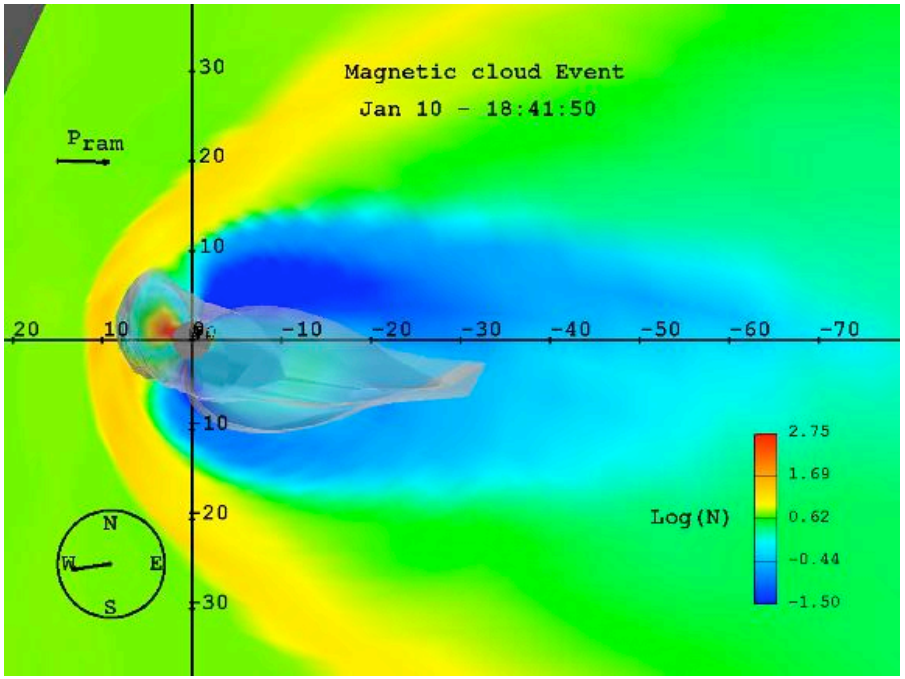
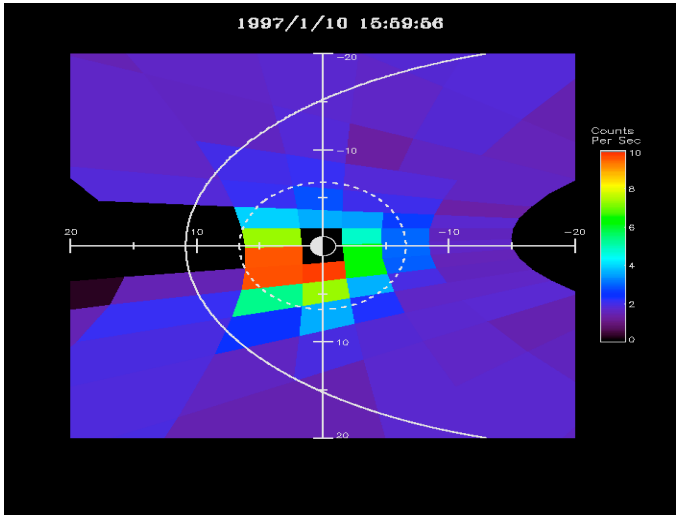
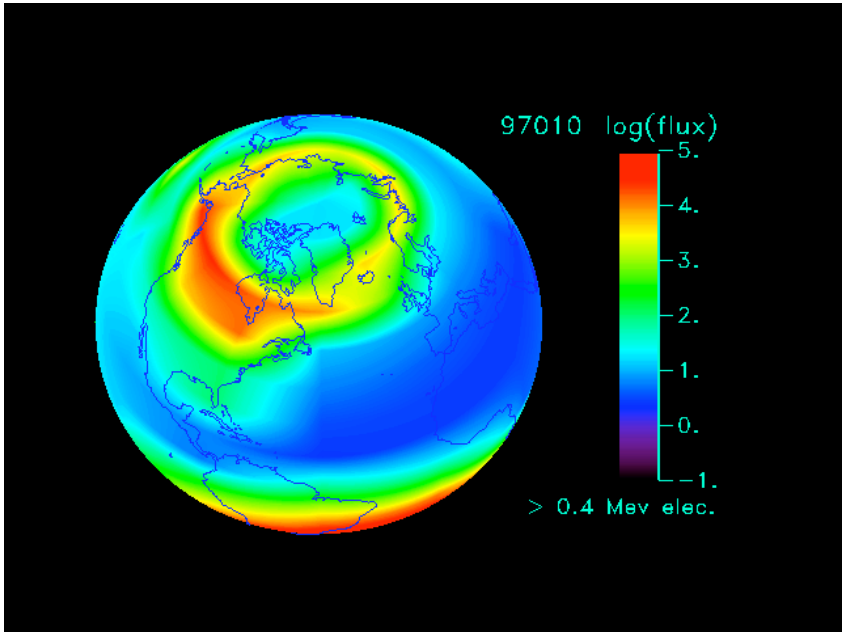

Magnetic cloud Event
Jan 10 - 18:41:50
Pram
30
20
10
20
10
-10
-20
-30
-40
-50
-60
-70
10
20
30
N
W
E
S
Log(N)
2.75
1.69
0.62
-0.44
-1.50


1997/1/10 15:59:56
Counts Per Sec
10
8
6
4
2
0


97010 log(flux)
5.
4.
3.
2.
1.
0.
-1.
> 0.4 Mev elec.